



# Cycle Notes

No. 7 August 2000

## On-Road Arterial Bicycle Routes

Welcome to CYCLE NOTES No. 7. The purpose of CYCLE NOTES is to provide information on the design of bicycle facilities for engineers and planners.

CYCLE NOTES should be read in conjunction with:

- Austroads Guide to Traffic Engineering Practice, Part 14 – Bicycles, and
- Australian Standard 1742.9, Manual of Uniform Traffic Control Devices, Part 9 Bicycle Facilities.

### Introduction

The purpose of this edition of *Cycle Notes* is to provide guidance on how to provide for cyclists on arterial bicycle routes and to select bicycle facilities that best match the needs of cyclists.

### Cyclists Have Differing Abilities

A cyclists' level of skill and experience, their level of comfort when cycling in traffic and the purpose for their ride are all factors that influence where they cycle.

As indicated in Figure 1, cyclists vary in skill and experience from inexperienced young children to very experienced and competent commuter and training cyclists.

Less experienced cyclists such as children, family groups and recreational cyclists are usually more interested in riding for fun and recreation. For this reason, they prefer to avoid busy roads and cycle on quieter local streets and off road paths which have a more predictable environment and minimal conflict.

On the other hand, more experienced and competent cyclists, such as commuter and training cyclists, want to get to their destinations as quickly as possible with minimal interruption. These cyclists will often use busy roads to satisfy their objectives of the ride. The experience and skill of these riders contributes to them feeling more comfortable in these higher stress environments.

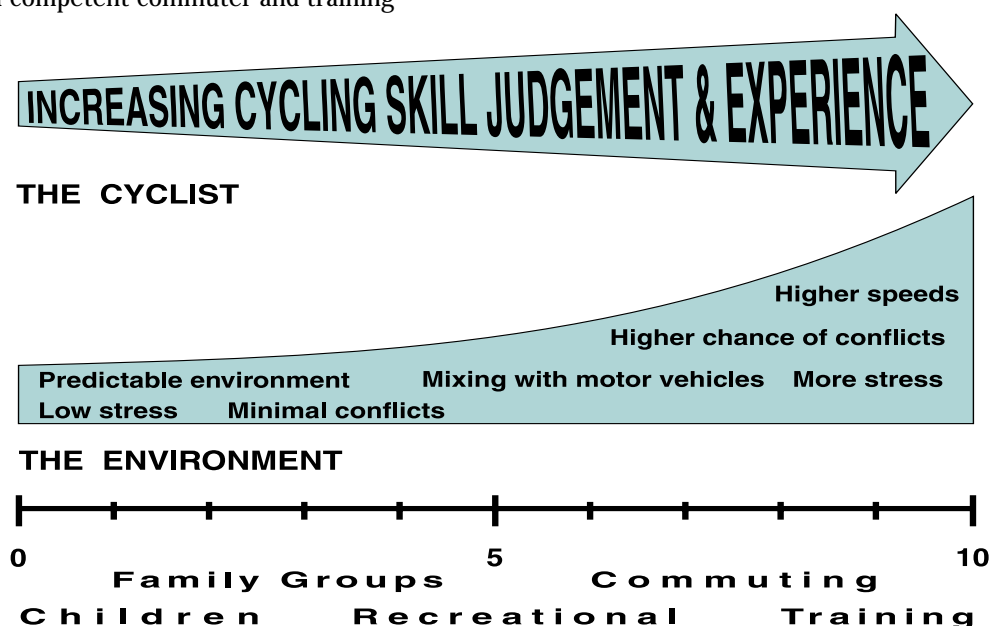


Figure 1: Cyclists have differing levels of skill and ride in a range of environments

# Cycling Routes

A cycling route can be considered as either an arterial route or as a local route. This depends on the function of the route and the type of cycling that it supports.

## Arterial Bicycle Routes

Arterial bicycle routes usually provide cyclists with the most direct route between major destinations. These routes support longer, more purposeful journeys and provide connections to other cycling routes.

In metropolitan Melbourne, the Principal Bicycle Network is a network of arterial bicycle routes. Arterial routes in regional cities and towns are called Priority Bicycle Routes.

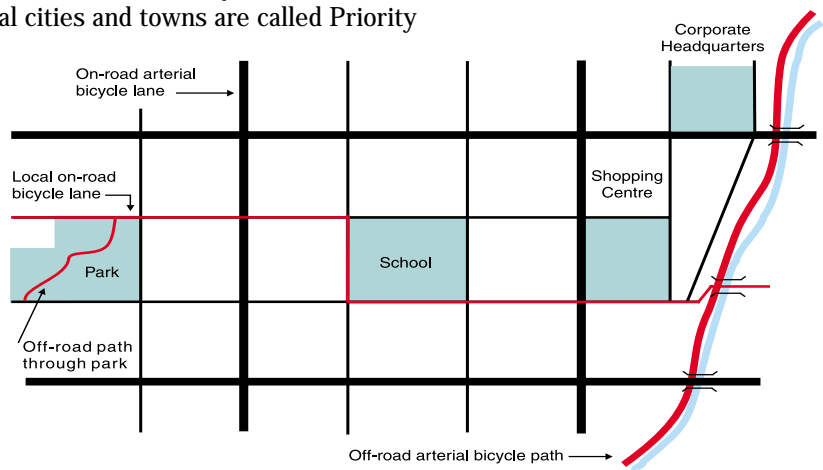


Figure 2: Cycling routes should connect to each other to create a total cycling network

## Different Routes Serve Different Cyclists

For the reasons outlined above, on-road arterial bicycle lanes will tend to be used by a small number of family groups, by a range of recreational cyclists, by most commuter cyclists, and by training cyclists.

Similarly, off-road arterial bicycle paths will tend to be used by a small number of younger children, most older

children and by family groups, recreational cyclists and by most commuter cyclists, but generally not by training cyclists.

On-road local bicycle lanes and off-road local bicycle paths will tend to appeal to less experienced cyclists. These facilities are more likely to be used by younger children, most family groups, most recreational cyclists and some commuter cyclists.

Figure 3 shows the overlap between bicycle routes and the types of cyclists that are most likely to use them.

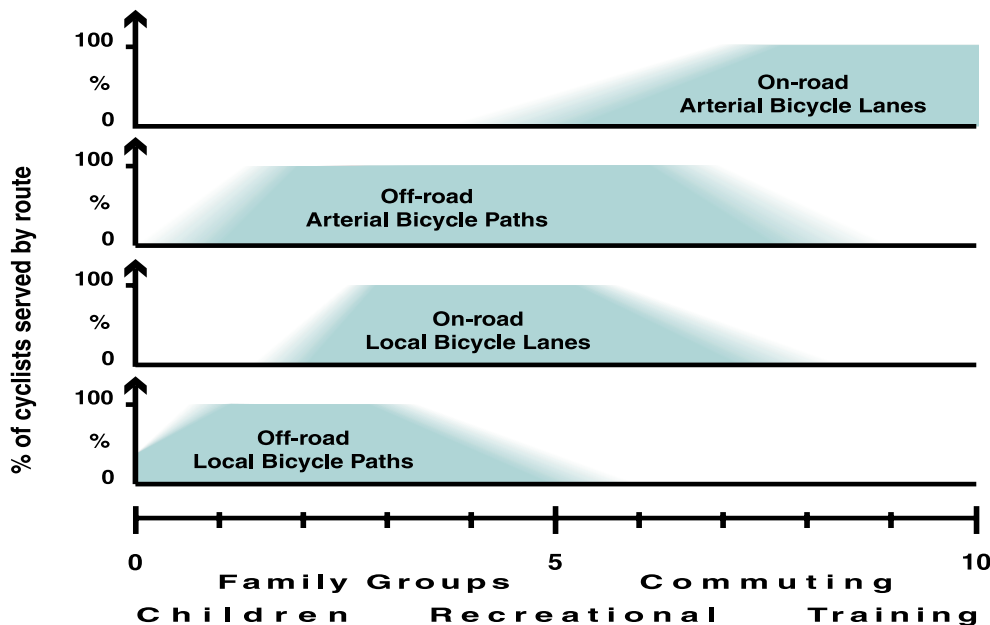


Figure 3: Networks overlap in their audience, but each one plays an important role

# Determining the Value of a Route to Cyclists

The first step in deciding on the most appropriate bicycle facilities to provide on a route is to determine the value of the route to cyclists. This allows an understanding of the types of cyclists that are most likely to use the route.

This can be done by carefully considering each of the following questions:

- 1. Is the route part of the Principal Bicycle Network or has it been identified as a Priority Bicycle Route?
- 2. Does this route provide access to major destinations?
- 3. Does the route connect to other bicycle routes such as off-road paths or local on-road lanes?
- 4. Are there any suitable alternative routes for cyclists to use?
- 5. Is there scope to extend the route in the future?

# Selecting the Most Appropriate Bicycle Facilities

It is important to select a bicycle facility for a route that will best serve the cyclists that will use the route.

It is also important to recognise that different facilities provide different levels of service for cyclists. This is dependant upon the degree of separation from motor vehicles, priority at conflict points and route directness.

The following table indicates the most common types of facilities and the degree of separation that each provides:

Type of Facility	Description	Degree of Separation
Exclusive Bicycle Lanes	A separate lane that can only be used by cyclists	High
Shared Parking and Bicycle Lanes	A separate bicycle lane in which motorists can also park	Medium
Wide Kerbside Lanes	A wide left lane that is used by cyclists and motorists	Low
Off-road paths	A path located adjacent to a carriageway	High

Figure 4 provides an indication of the types of cyclists most likely to use these facilities on arterial routes.

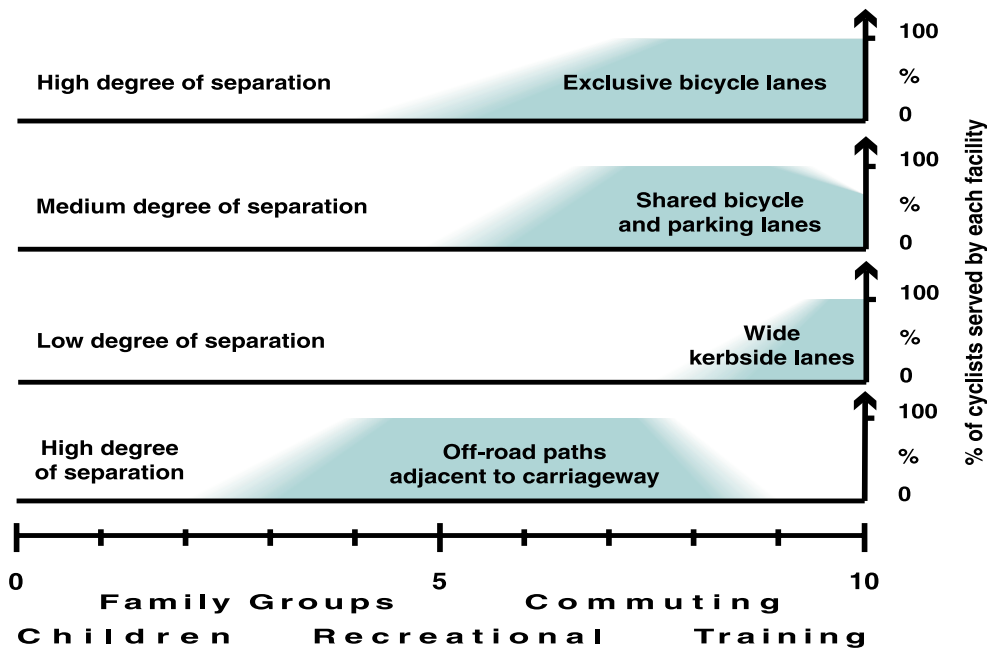


Figure 4: Different arterial bicycle facilities provide for different groups of cyclists

## Bicycle Facility Widths

Austrorads Guide to Traffic Engineering Practice Part 14, Bicycles, are the agreed national guidelines for designing bicycle facilities. Designers of bicycle facilities should become familiar with these guidelines. The bicycle lane and path widths provided in this edition of *Cycle Notes* are from the guidelines.

Where a new road is being constructed and there is sufficient space within the road reservation, the "desirable" width of bicycle facility outlined in the

tables should be provided. When bicycle facilities are being retrofitted to an existing road, bicycle facilities should be provided if they fall into the "acceptable range".

On-road bicycle lane widths are measured to the face of kerb. Whilst cyclists generally do not ride in the channel, it is usable clearance space which can be included in the bicycle lane width. However, the channel space is only useful if the joint between the asphalt road surface and the concrete channel is as smooth as possible.

### Exclusive Bicycle Lanes and Sealed Shoulders<sup>1</sup>



	Overall Bicycle Facility Width (m)		
Road Speed (km/h)	60	80	100
Desirable Width (on new roads)	1.5	2.0	2.5
Acceptable Range (when retrofitting to roads)	1.2 - 2.5	1.8 - 2.7	2.0 - 3.0

### Shared Parking and Bicycle Lanes<sup>1</sup>



	Overall Bicycle Facility Width (m)	
Road Speed (km/h)	60	80
Desirable Width (on new roads)	4.0	4.5
Acceptable Range (when retrofitting to roads)	3.7 - 4.5	4.0 - 4.7

### Wide Kerbside Lanes<sup>1</sup>



	Overall Bicycle Facility Width (m)	
Road Speed (km/h)	60	80
Desirable Width (on new roads)	4.2	4.5
Acceptable Range (when retrofitting to roads)	3.7 - 4.5	4.3 - 5.0

### Off-road Paths Adjacent to Carriageway



	Local Access Path	Commuter Path	Recreation Path
Desirable Width	2.5	3.0	3.5
Acceptable Range	2.0 - 2.5	2.0 - 3.5	3.0 - 4.0

<sup>1</sup> The width of the lane is measured from the face of the kerb